NEW SPECIES OF APOCYNACEAE, BIGNONIACEAE PASSIFLORACEAE, AND PIPERACEAE FROM COASTAL COLOMBIA AND ECUADOR

Alwyn H. Gentry¹ Missouri Botanical Garden

Recent collections of plants from the rich and still poorly explored coastal lowlands of Colombia and Ecuador have included many new taxa. This paper describes nine of them, five from the Chocó Department of Colombia and four from western Ecuador. Eight of the novelties are lianas and the other a large canopy tree. The new species are Allomarkgrafia foreroi A. Gentry, Aspidosperma jaunechense A. Gentry, Macropharynx renteriae A. Gentry, Distictella chocoensis A. Gentry, Schlegelia chocoensis A. Gentry, Passiflora caudata A. Gentry, Piper foreroi A. Gentry, Piper fallenii A. Gentry, and Piper schuppii A. Gentry.

ALLOMARKGRAFIA FOREROI A. Gentry, sp. nov.

Frutex scandens, glaber. Folia lanceolata, acuminata, sub-coriacea, prope basin supra glandibus. Inflorescentia laxa. Flores calycibus 5-lobatis, corollis tubulo-campanulatis supra basin tubulosam, glabris, antheris sagittatis. Fructus ignotus.

Vine, stems terete, glabrous, the cortex becoming reddish and splitting and peeling with age. Leaves lanceolate to narrowly lanceolate-elliptic, acuminate, obtuse at base, 6-12 cm long, 1.5-2.4 cm wide, subcoriaceous, completely glabrous above and below, glandular at base of midvein above; petiole 0.4-0.8 cm long. Inflorescence an axillary, open, dichotomously branched cincinnus, glabrous, the dichotomies subtended by minute triangular bracts. Calyx 5-lobed, the lobes roundtipped, 2-3 mm long; corolla green in upper half and red in lower half, the lobes white, tubular-campanulate above a narrowly tubular base, glabrous, the base and upper tube each 2 cm long, the basal tube 2 mm wide, the upper tube 8 mm wide at throat, the lobes round, ca. 5 mm long; anthers sagittate, 4-4.5 mm long, the thick basal auricles blunt and less than 1 mm long, the apex thin, abruptly acuminate, ca. 0.5 mm long; stigma with pronounced basal projections. Fruit unknown.

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Type: COLOMBIA: Chocó: Carretera Tutunendo-El Carmen, 200-350 m alt., 26 Apr 1979, Forero, Jaramillo, Bernal, León, and Pulido 5854 (holotype, COL; isotype, MO).

Like so many Chocó endemics, Allomarkgrafia foreroi is strikingly distinct from its congeners. It is most like A. brenesii Woods. of Costa Rica which also has rather narrow leaves, but differs in such features as a broader much more infundibuliform upper corolla tube, much larger corolla lobes, long-pointed bud apices, and more acute calyx lobes. Allomarkgrafia foreroi is somewhat intermediate between Mesechites and Allomarkgrafia which were separated by Woodson on the basis of corolla and stigma shape. The tubular campanulate upper corolla of A. foreroi does not match either the salverform corolla of Mesechites or the infundibuliform corolla of Allomarkgrafia, although one other Allomarkgrafia species also has a more or less tubular corolla. The stigma of A. foreroi is somewhat umbraculiform as in Mesechites and the greenish flower color is also more like several species of that genus than like the pure white or yellow flowers of other species of Allomarkgrafia. Perhaps the critical feature supporting placement in Allomarkgrafia is that the large corolla of the new species is much larger than that of any species of Mesechites despite its somewhat intermediate shape.

ASPIDOSPERMA JAUNECHENSE A. Gentry, sp. nov.

Arbor elata, trunco sulcato. Folia elliptica, acuta, basi obtusa, membranacea, infra costa sparse puberula. Inflorescentia axillaris, cymosa, floribus paucis, corollis hypocrateriformibus, antheris sagittatis, 1 mm longis. Fructus orbicularis, glaber, minute exasperatus.

Tree ca. 20 m tall, the trunk conspicuously fenestrated or sulcate, inner bark reddish. Branchlets terete, densely minutely lenticellate, minutely appressed puberulous with whitish trichomes when young. Leaves elliptic to oblong-elliptic, acute at apex, obtuse to very abruptly and broadly cuneate at base, 5-12 cm long, 1.8-5 cm wide, membranaceous, the margin almost serrulate, sparsely and inconspicuously puberulous along midvein below, otherwise glabrous, the surface smooth and shiny when dried, secondary veins almost plane above, prominulous below, separated by 0.5-1 cm; petiole 0.3-0.6 cm long. Inflorescence axillary, few-flowered, dichasially cymose, ebracteate, puberulous. Flowers with the calyx lobes 5, equal, 2 mm long, rounded at tip, puberulous; corolla white or cream, 1.3 cm long in bud, salverform, the tube cylindric, 5-6 mm long, the narrow lobes ca. 6 mm long, mostly glabrous, pubescent inside

below anther insertion; anthers sagittate, 1 mm long, inserted 3-4 mm from base of tube; ovary ovoid, 1 mm long, glabrous. Fruits almost orbicular (very broadly dolabriform and rotated 300° according to Woodson's terminology), short stipitate, 5.5-6.5 cm in diameter, the acumen (morphological apex) 3-3.5 cm from point of attachment and strongly apiculate, the surface glabrous, macroscopically smooth with a texture like fine sand paper, under a lens distinctly roughened and with small inconspicuous lenticellate flecks; seeds round, ca. 5 cm in diameter, the round seed body 1.8-2 cm in diameter, and completely surrounded by the thin brownish-hyaline wing.

Type: ECUADOR: Los Ríos: Jauneche Forest, Jauneche, Quevedo-Palenque via Mocachi, Canton Vinces, 100 m alt.; tree 20 m, flowers cream, 26 Mar 1980, Dodson and Gentry 9920 (holotype, MO; isotypes ECU, SEL).

Additional collection examined: ECUADOR: Los Ríos: Jauneche Forest, Canton Vinces between Mocachi and Palenque on Estero Peñafiel, 70 m alt.; tree 18 m tall, trunk fenestrated, inner bark reddish, fruit green, turning brown, fruits paired, 4 Oct 1979, Dodson, Gentry, and Valverde 8836 (ECU, MO, SEL).

N.v.: "Naranjillo de monte"

This species keys out with series Macrocarpa in Woodson's (Annals of Missouri Bot. Gard. 38:119-204. 1951.) treatment, on account of its spreading corolla lobes, ebracteate pedunculate inflorescences, and relatively large corolla. It is completely unlike the other two species of series Macrocarpa in its much smaller, more strongly rotate fruit. In general aspect and the strongly rotated placenta the new species looks more like A. rigidum Rusby (series Rigida). The conspicuously sulcate trunk is reminiscent of series Nitida, but the species of that series have the corolla densely sericeous outside. It is completely unlike its sympatric congener A. myristicifolium although the trunks of both species are similarly sulcate and the two are confounded by local woodsmen.

MACROPHARYNX RENTERIAE A. Gentry, sp. nov.

Frutex scandens, ramulis puberulis. Folia late elliptica vel ovato-elliptica, caudato-acuminata, basi rotundata, rufo-puberula. Inflorescentia axillaris flore singulare vel floribus duobus, bracteata, calycis lobis foliaceis, anguste ovatis, corollis albis, tubulo-infundibuliformibus, plerumque glabris. Fructus ignotus.

Vine, the stems terete, puberulous. Leaves broadly elliptic to ovate-elliptic, caudate acuminate, the base rounded, 18-22 cm long, 11.5-12.5 cm wide, above reddish puberulous along veins and sparsely and glabrescently over surface, below reddish puberulous along veins and over surface, the trichomes forming an irregular tangled mat; petiole 3-6 cm long, reddish puberulous. Inflorescence a single flower or two flowers from a very short shared peduncle, axillary, the ca. 2 cm long pedicel conspicuously bracteate with 6 or 8 narrow foliaceous bracteoles 1-1.5 cm long and 1-4 mm wide. Flowers fragrant, the 5 calyx lobes foliaceous, narrowly ovate, 1.5-1.8 cm long, 5-8 mm wide, inconspicuously puberulous at least at tip and base; corolla white, tubular-infundibuliform, the tube and throat together 3.5-4 cm long, 1-1.3 cm wide at mouth, the lobes ca. 1 cm long, mostly glabrous, sparsely pubescent with crisped trichomes near base of lobes inside; stamens inserted ca. 2.2 cm from base of tube, the anthers 9-10 mm long, narrowly sagittate with long-tapering 3 mm long acuminate basal lobes; stigma 2 mm long, the apex subglobose, the base slightly flared and forming skirt around style. Fruit unknown.

Type: COLOMBIA: Chocó: Ca. 37 km W of Las Animas on new PanAmerican Highway, alt. 180 m, disturbed roadside forest, 10 Jan 1979, <u>Gentry and Renteria</u> 23955 (holotype, COL; isotypes, MO, HUA, to be distributed).

In general aspect, M. renteriae is quite like M. spectabilis (Stadelm.) Woods. of Amazonia. Its most striking difference from M. spectabilis is in having 5 broadly foliaceous calyx lobes instead of 7-9 linear ones. The second species of Macropharynx, M. anomala Woods. of western Ecuador, which was recognized by Woodson (Annals Missouri Bot. Gard. 23: 270. 1936.) has been known only from the destroyed type at Berlin. That species, characterized especially by small salverform corollas, is very different from M. renteriae. It has recently been recollected (Dodson and Gentry 9704 (MO, ECU, SEL)) at an altitude of 1000-1400 m between km. 94 and km. 96 of the old Quito-Santo Domingo road in Pichincha Province. The fruits, previously unknown, are paired, linear, 33-35 cm long, finely and glabrescently rufous tomentose.

DISTICTELLA CHOCOENSIS A. Gentry, sp. nov.

Frutex scandens, ramulis puberulis, sine consociebus glandularum in nodis inter petioles. Folia 2-foliolata, interdum cirrho trifido, foliolis ovatis vel oblongo-ellipticis, infra puberulis. Inflorescentia floribus in panicula racemosa dispositis. Flores calycibus cupulatis, truncatis, puberulis,

corollis albis, tubulo-campanulatis, dense puberulis, ovario oblongo-ellipsoideo, dense puberulo. Capsula ignota.

Liana; stem terete, longitudinally striate, finely puberulous with stiff trichomes, these banded brown and tannish, without interpetiolar glandular fields, pseudostipules subfoliaceous, ca. 6 mm long. Leaves 2-foliolate, sometimes with a trifid tendril, the leaflets ovate to oblong-elliptic, apex obtuse or minutely cuspidate, the base rounded or obtuse, subcoriaceous, 6-15 cm long, 3.5-10 cm wide, puberulous below with erect trichomes with bent tips, mostly glabrescent above except along midvein, the main veins impressed above and raised below, the tertiary venation plane above and distinctly prominulous below; petiole 3-4 cm long, reddish puberulous with the same striped trichomes as the twigs, the petiolules 1-1.5 cm long. Inflorescence a few-branched racemose panicle, reddish tomentose. Flowers with the calyx cupular, truncate, 7-8 mm long, 7-8 mm wide, appressed puberulous, with plate-shaped glands near margin; corolla white, tubular-campanulate, bent forward above base, ca. 4 cm long, ca. 1.5 cm wide at mouth of tube, the tube ca. 3 cm long, the lobes 0.5-0.8 cm long, tube and lobes densely puberulous outside and inside; stamens didynamous, the thecae divaricate; ovary oblong-ellipsoid, 3 mm long, 1.5 mm wide, densely appressed puberulous; disk patelliform, 1.5 mm long, 4-5 mm wide. Capsule unknown.

Type: COLOMBIA: Chocó: Ca. 10 km W of Istmo de San Pablo on PanAmerican Highway (under construction) west of Las Animas, 110 m alt.; vine, flowers white, 12 Jan 1979, Gentry and Renteria 24089 (holotype, COL; isotypes, MO(2)).

Endemic to the lowland Chocó region of western Colombia.

Additional collections examined. COLOMBIA: Chocó: Sin. loc., Apr 1833, Triana 4124-10 (COL). El Valle: Río Yurumanguí, veneral, bosques, 5-50 m alt, 30 Jan 1944, Cuatrecasas 15775 (COL). El Forge, near Buenaventura, near sea level, woody vine, close to ground in grass, corolla cream, 5-8 Jun 1944, Killip and Cuatrecasas 38828 (COL).

All species of <u>Distictella</u> have very similar flowers and are distinguished primarily by type of pubescence of the vegetative parts and to a lesser extent by fruits. While pubescence characters are notoriously intraspecifically plastic in many genera of Bignoniaceae, in <u>Distictella</u> they are highly constant and correlated with distinctive ecologically and geographically defined entities. <u>Distictella</u> chocoensis is related to <u>D. parkeri</u> (DC.)Sprague and Sandw. of lowland Guayana and <u>D. elongata</u> (Vahl) Urb., which is widespread in the

Brazilian cerrado and occasional north into the Guianas and southern Venezuela. Distictella parkeri has a closely appressed almost canescent tomentum of minute trichomes on the leaf undersurface; D. elongata has the leaf undersurface softly pubescent with long erect trichomes. The new species is intermediate; the erect trichomes with bent tips of its leaf undersurface tomentum are longer than those of D. parkeri and shorter than those of D. elongata. Distictella chocoensis differs from both D. parkeri and D. elongata in the distinctly prominulous tertiary venation of the leaf undersurfaces. The Cuatrecasas collections were identified by Sandwith as D. parkeri but the constancy of the vegetative differences illustrated by the additional Chocó material now available coupled with the long range disjunction, argues for specific recognition.

There are two unaccounted for collections of unattached Distictella fruit valves from eastern Panama which might belong to this species. The only Distictella reported from Panama is D. magnoliifolia which has strongly tomentose fruits in Amazonia but whose fruits have not been collected in Central America nor Chocó. The Panamanian fruits (Duke 14733 (MO), mixed with Strychnos leaves) and Gentry 4125 (MO)(mounted with sterile leaves of D. magnoliifolia collected from the same area) are much more finely and glabrescently appressed puberulous than any South American material of that species. Whether these represent geographical variation in D. magnoliifolia or a range extension of D. chocoensis cannot be determined on the basis of the available evidence.

SCHLEGELIA CHOCOENSIS A. Gentry, sp. nov.

Frutex scandens hemiepiphyticus, ramulis teretis, glabris, lenticellatis. Folia oblongo-ovata vel oblongo-elliptica, coriacea, basim truncata vel abrupte subcordata, infra minute lepidoto-punctata. Inflorescentia axillaris, pauciflora. Flores calycibus cupulatis, truncatis, glabratis, corollis albis, anguste infundibuliformibus, glabris. Fructus ignotus.

Hemiepiphytic liana; branchlets terete to somewhat flattened at nodes, glabrous, distinctly lenticellate with round raised whitish lenticels, pseudostipules subulate. Leaves opposite, simple, oblong-obovate to oblong-elliptic, acute to abruptly short acuminate, tapering toward base, the ultimate base more or less truncate to indistinctly subcordate, 21-30 cm long, 7-14 cm wide, coriaceous, secondary veins 9-12 on a side, glabrous, minutely lepidote punctate beneath, with occasional plate-shaped glands in axils of lower secondary veins and a well-developed gland field near base of midvein, drying grayish olive above and olive below; petiole 0.5-1.3 cm

long, 3-6 mm thick, terete and woody. Inflorescence axillary, few-flowered. Plowers with the calyx cupular, truncate, 4 mm long, 4 mm wide, essentially glabrous, drying brownish; corolla white, narrowly hypocrateriform, 1.2-1.3 cm long, 0.5 cm wide at mouth of tube, the tube 8-9 mm long, the lobes 3 mm long, completely glabrous except for some inconspicuous lepidote scales inside at base of corolla lobes; stamens and ovary not examined. Fruit not seen.

Type: COLOMBIA. Chocó: Quebrada Peña Negra, 8 km W of Quibdó-Istmina road on new PanAmerican Highway, alt. 90 m, hemiepiphytic vine, flowers pure white, funnel-shaped, 10 Jan 1979, Gentry and Renteria 23935 (holotype COL; isotypes HUA, MO(2)).

Endemic to the lowland pluvial forest of central Choco Department. $% \left(1\right) =\left(1\right) \left(1\right) +\left(1\right) \left(1\right) \left(1\right) +\left(1\right) \left(1\right$

Additional collection examined: COLOMBIA. Chocó: 10 km W of Las Animas, PanAmerican Highway (under construction), alt. 100 m, sterile vine, 12 Jan 1979, Gentry and Renteria 24072A (COL, MO).

This new species belongs to the taxonomically difficult S. parviflora complex. It is distinct from S. parviflora (Oerst.) Monachino as it occurs in Chocó and Central America in having flowers which are larger, more openly funnel-form and pure white rather than white with pink markings. The leaves of S. chocoensis are larger than those of any collection of S. parviflora from this region, though equally large leaves occur in an Amazonian member of the complex which was reduced to S. parviflora (s.l.) by Sandwith. The abruptly truncate or subcordate leaf bases and short thick petioles are quite unlike S. parviflora and the conspicuous round-raised lenticels make even the twigs distinguishable.

PASSIFLORA CAUDATA A. Gentry, sp. nov.

Planta scandens, ramulis puberulis. Folia ovata, caudato-acuminata, basim truncata, membranacea, plus minusve integra, sparsim puberula, petiolis duobus paribus glandularum. Flos bracteis tribus foliaceis ovatis subtentus, calycis tubo campanulato, sepalis aristatis, petalis lineari-lanceolatis, 3-3.5 cm longis, corona fasciata lavandula atque alba, 4-seriata, ovario ellipsoideo, puberulo. Fructus globosus.

Vine; stem persistently puberulous, terete or slightly angular, finely longitudinally striate; stipules absent or

linear and 5 mm long. Leaves ovate, caudate-acuminate, truncate at base, 11-27 cm long, 6.5-11 cm wide, subentire to subserrulate, membranaceous, puberulous below along main veins and scattered over surface, above puberulous along main veins; petiole 4-5 mm long, puberulous, with 2 pairs of large (1-2 mm diameter) glands, these near apex and about 1.5 cm from base. Peduncle 5-6.5 cm long, crisped puberulous, the 3 bracts foliaceous, broadly ovate, acuminate, entire, 4-5.5 cm long, 2.5-3.2 cm wide, fused for basal 1 cm; calyx tube campanulate, ca. 1 cm long and 1.4 cm wide, sepasl ca. 4 cm long and 1 cm wide, the apex narrowed to a ca. 2 mm long awn; petals light green with maroon spots, linear-lanceolate, 3-3.5 cm long, 5 mm wide; corona 4-seriate, lavender striped with white, outer series ca. 0.8 cm long, second series ca. 1.5 cm long; inner two series reduced to rings of tubercles, operculum erect, annular, the margin thickened, the outer border minutely toothed; limen cupuliform 6-7 mm long; ovary ellipsoid, densely puberulous, 5 mm long, the style branches 7-8 mm long. Fruit globose, ca. 5 cm in diameter, green; seeds elliptic, 3 by 4 mm, the surface foveolate-pitted.

Restricted to the narrow band of wet forest along the western base of the Andean Cordillera from the Colombian border to Santo Domingo de los Colorados.

Additional collections examined: ECUADOR: Carchi: Vicinity of Chical, west of Maldonado on trail to Peñas Blancas, wet premontane forest and adjacent second growth, 1200-1350 m, 23 Sept 1979, Gentry and Schupp 26384 (MO, QCA, SEL). Pichincha: Santo Domingo bypass approximately 3 km S of Santo Domingo, 530 m, 8 Apr 1980, Dodson and Gentry 10367 (MO, SEL).

Passiflora caudata belongs to series Tiliaefolia of subgenus Granadilla where its apical pair of petiole glands, nonfilamentose operculum, and linear stipules key it to P. seemannii Griseb. which is very different in deeply cordate, usually round-tipped leaves and lack of an indumentum. If stipules are ignored, the non-tuberculate calyx tube (except above the operculum) and essentially entire leaves key it out to P. tiliaefolia L., the only other species of series Tiliaefolia in northwestern Ecuador. That species has a thicker, much more cordate leaf, glabrous ovary, bracts united a third of their length, and 5-ranked corona.

Probably <u>P. caudata</u> is related more closely to <u>P. maliformis</u> L. than to any of the other species of series Tiliaefolia, resembling that species especially in the truncate leaf base. However <u>P. maliformis</u> has the petioles only biglandular with a pair of glands near the middle, and a different-shaped more

narrowly oblong-ovate leaf which lacks the caudate tip of \underline{P} .

caudata.

This is apparently another of the many endemic species which are restricted to the strip of wet forest along the base of the Andes in northwestern Ecuador. It is especially noteworthy in that campesinos at Chical consider it an important wild and semi-cultivated fruit.

PIPER FOREROI A. Gentry, sp. nov.

Planta scandens, ramulis gracilibus, glabris vel subpuberulis. Folia oblongo-elliptica, longi-acuminata, peltata, glabra. Spica 1-2 cm longa, 1-2 mm lata.

Vine, the branchlets slender, striate, subterete or somewhat angulate, glabrous to subpuberulous with scattered minute appressed trichomes. Leaves oblong-elliptic, long acuminate with an acumen 1-2 (-2.5) cm long, peltate 3-8 mm from base, the base rounded, 8.5-15(-16) cm long (without the acumen), 3.3-6.8 cm wide, with 3-5 lateral nerves on each side, usually 2-3 pairs of strongly arched nerves from lower 1/3 of leaf and the additional pairs arising in upper 1/3 to 1/2 of leaf, the venation prominulous above and below, completely glabrous, glandular-punctate below; petiole ca. 1 cm long, glabrous. Spike 1-2 cm long, 1-2 mm wide, the peduncle 2-10 mm long, glabrous, the bracts much broader than long, marginally pubescent, the anthers ca. 0.3 mm long, laterally dehiscent, stigmas sessile.

Type: COLOMBIA: Chocó: Hoya del Río San Juan, alrededores de Palestina, 5 mm alt., 4° 10' N, 77° 10' W, enrededora epífita, inflorescencia verde claro, 26 Mar 1979, E. Forero, R. Jaramillo, L. E. Forero, and N. Hernández 4044 (holotype, COL; isotype, MO).

Endemic to lowland Chocó Department.

Additional collection examined: COLOMBIA: Chocó: Región del Río Pichimá, comunidad indígena Waunana, 100 m alt., 4º 25' N, 77º 17' W, enredadera, 15 Nov 1976, L.E. Forero 665 (COL, MO).

This is one of the very few peltate-leaved species of Piper. In Trelease and Yuncker's treatment it keys out with P. scutilimbum C. DC. which is a tree and has a very different leaf shape and elongate inflorescences.

PIPER FALLENII A. Gentry, sp. nov.

Planta scandens, ramulis puberulis. Folia oblongo-ovata vel oblongo-elliptica, caudato-acuminata, basim rotundata vel subcordata, infra atropurpurea, venis puberulis. Spica immatura 2 cm longa, 2 mm lata.

Vine, the branchlets striate, puberulous. Leaves oblong-ovate to oblong-elliptic, caudate acuminate with an acumen to 2.5 cm long, rounded to very shallowly subcordate at base, 7-15 cm long (without the acumen), 3.5-7.5 cm wide, with 3-5 lateral nerves originating from lower third of midvein on each side, plane or slightly impressed above, prominent below, glabrous or inconspicuously minutely puberulous above, minutely puberulous along veins below, conspicuously lepidote below, the margins minutely ciliate, strikingly dark purple on underside both when fresh and when dry; petiole 0.3-1.2 cm long, puberulous. Spike (only immature seen) 2 cm long, 2 mm wide, the peduncle 18 mm long, with a few scattered trichomes.

Type: ECUADOR. Pichincha: El Centinela, crest of Montanas de Ila, km. 12 of road from Patricia Pilar to 24 de Mayo, 600 m, vine with purple leaf backs, spikes purple, 2 Oct 1979, Dodson, Gentry, and Schupp 8678 (holotype, MO; isotypes, ECU, SEL, Rio Palenque).

Known only from the El Centinela ridge top, where locally common.

Additional collections examined: ECUADOR: Pichincha: Loc. cit., 15 Jul 1979, M. Fallen and C. Dodson 850 (MO, SEL), Dodson, Fallen, and P. Morgan 8403 (MO, SEL).

This striking species is characterized by the deep purple leaf undersides. It keys out with <u>P. novogranatense</u> in Trelease and Yuncker's key but is not obviously related to that species. It is perhaps closer to <u>P. ottoniaefolium C.DC.</u> and its allies which are vines with more or less similar leaf shapes and venation but longer spikes. No other species of <u>Piper</u> has conspicuously deep purple leaf undersides; <u>P. bicolor Yuncker</u> of Peru, which has redviolet leaf undersides, is a totally different succulent herb.

PIPER SCHUPPII A. Gentry, sp. nov.

Planta scandens, ramulis teretibus, glabris. Folia oblongo-elliptica, acuminata, basim rotundata vel subcordata,

bullata, supra sparsim puberula, infra pilosa. Spica 10-11 cm longa, 3-4 mm lata.

Vine, the branchlets terete, striate, glabrous. Leaves oblong-elliptic, short-acuminate, rounded to very shallowly subcordata at base, 17-26 cm long, 7-ll cm wide, with about 6 lateral nerves originating from lower third of midvein on each side, above strongly bullate, with all veins impressed, sparsely short puberulous, especially in the grooves over the veins, below with the venation rigidly prominent, scattered pilose over surface, petiole 0.8-l cm long, very minutely appressed puberulous. Spike 10-ll cm long, 3-4 mm thick, styles not elongate, the bracts fringed puberulous, the peduncle 1.8 cm long, glabrous.

Type: ECUADOR: Carchi: 12 km E of Maldonado on road to Tulcan, 2230 m, 27 Sept 1979, Gentry and Schupp 26650 (holotype, MO; isotypes, QCA, SEL).

This species keys to P. dryadum var. bullatilimbum C. DC. in Trelease and Yuncker's monograph on account of its large bullate leaves. I have seen no material of that taxon which is described as "pubescent throughout". Piper schuppii is certainly not conspecific with typical P. dryadum C. DC. of Costa Rica and Panama which is a densely pilose erect shrub with distinct style and stigma. It is actually closer to P. cavendishioides Trel. and Yuncker, P. ottoniaefolia C. DC. and their allies, but differs in the conspicuously bullate coriaceous leaves which are distinctly puberulous along the veins beneath.